REMARKS

Reconsideration and withdrawal of the rejections set forth in the Office Action dated April 15, 2010, are respectfully requested in view of this amendment. By this amendment, claims 1-5 have been cancelled and claims 6-29 have been amended. Claims 6-29 are pending in this application.

The cancellation of claims 1-5 and the limitations as applied to the remaining independent claims is made without prejudice to later prosecution of the subject matter of these claims in this application or a subsequent continuation application.

Amended claims 6, 7, 8, 9, 15, 16, 22, 24 and 28 have been amended to describe changing the video data as necessary so that a video frame to be reproduced last in a video object and a video frame to be reproduced first in the following video object are reproduced seamlessly at a connection point, and to describe determining an edition point of the audio frame so that a period of reproducing an audio frame to be reproduced last in the video object includes time of the connection point of the video frames and a period of reproducing an audio frame to be reproduced first in the following video object includes the time of the connection point.

Similarly, amended claims 10, 12 and 14 have been amended to describe video object and management information including an edition point in an audio frame and a flag indicative of an audio multiplex state.

In addition, claim 28 has been amended to describe the computer memory store or medium with instructions for causing the computer to execute the described steps.

The features added to claims 6, 7, 8, 9, 15, 16, 22, 24 and 28 relating to the video frames and the determination of the edition point were found in claims 1-5. Support for added subject matter relating to the management information in claims 10, 12, 14, 17, 19, 21, 26, 27 and 29 also finds support in claims 1-5. The feature of the stored instructions to perform the steps of claim 28 are inherent in the description, throughout the specification, of the use of programmed instructions, *inter alia* at paragraph [0128] (as published in U.S. Published Application

No. 2006-0140575). It is respectfully submitted that the above amendments introduce no new matter within the meaning of 35 U.S.C. §132.

In the outstanding Office Action, the Examiner rejected claim 28 was rejected under 35 U.S.C. §101 as directed to non-statutory subject matter. Claims 1–29 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,263,150 to Okada et al. (hereinafter *Okada*) in view of U.S. Patent No. 5,752,224 to Tsutsui et al. (hereinafter *Tsutsui*). These rejections, as applied to the revised claims, are respectfully traversed.

Claim Rejections under 35 U.S.C. §101

The Examiner rejected claim 28 under 35 U.S.C. §101 asserting that the claimed invention is directed to non-statutory subject matter. In particular, the Examiner asserted that the claim defined a program embodying functional descriptive material but did not define technology to permit the functions to be realized or impart functionality.

Response

Claim 28 have been amended to set forth a non-transitory computer memory store or medium with instructions for causing the computer to execute the described steps. Claim 28 as amended, is now believed to embody statutory subject matter and the rejection to this claim is respectfully traversed. In particular, the claims describe functional structures or changes as required under 35 U.S.C. §101.

In particular, Applicants have included the description of an audio/video recording program product for making a computer execute a recording method, and comprising a non-transitory computer memory store or medium with instructions for causing the computer to execute the previously-described steps.

Thus, Applicant further reinforces the ties between the claimed subject matter to a machine, article of manufacture or a composition of matter, as required and discussed in the Examiner and cited *In re Comiskey* and *In re Bilski*.

The method described by claim 28 therefore comprises certain tangible steps selected, coupled and configured in accordance with certain embodiments of the presently claimed subject matter. Applicants request reconsideration of the rejections and respectfully submits that the rejections under 35 U.S.C. 101 be withdrawn.

Rejections Under 35 U.S.C. §103

The Examiner rejected claims 1–29 under 35 U.S.C. §103(a) as being unpatentable over *Okada*, taken in view of *Tsutsui*. *Okada* is cited as describing recording synchronized video data and audio data as a video object. *Tsutsui* is cited as disclosing a window function multiplying process and an orthogonal transformation process for audio data.

Response

This rejection is traversed as follows. To show obviousness under §103, it is necessary to show an incentive to benefit from the change. *KSR International Co. v. Teleflex Inc. et al.*, 127 S.Ct. 1727, 82 USPQ2d 1385 (2007).

> "The proper question to have asked was whether a pedal designer of ordinary skill, facing the wide range of needs created by developments in the field of endeavor, would have seen a benefit to upgrading Asano with a sensor. In automotive design, as in many other fields, the interaction of multiple components means that changing one component often requires the others to be modified as well." (*id* at 127 S.Ct. 1744)

A demonstration of obviousness under §103 requires that the combination represent a design step well within the grasp of a person of ordinary skill in the relevant art. *id.*

> "KSR provided convincing evidence that mounting a modular sensor on a fixed pivot point of the Asano pedal was a design step well within the grasp of a person of ordinary skill in the relevant art." (*id* at 127 S.Ct. 1746)

The standard for anticipation under 35 USC §102 and obviousness under 35 USC §103(a) following *KSR* is detailed in *Forest Labs v. Ivax Pharmaceuticals*, 501 F.3d 1263; 84 USPQ 2d 1099; 41 A.L.R. Fed. 2d 697 (2007). In *Forest Labs*, the court determined that a

reference mentioned a particular chemical component, but did not explain how to obtain it and therefore deemed that, "A reference that is not enabling is not anticipating." The court then deemed the product was therefore unobvious over that reference.

Okada is acknowledged as not describing audio encoding means that performs encoding including a window function multiplying process and an orthogonal transformation process on an audio signal to be recorded and outputs the audio data. *Tsutsui* is cited as showing encoding including a window function multiplying process and an orthogonal transformation process on an audio signal to be recorded and outputs the audio data. It is submitted, however, that this combination fails to suggest disclose or suggest Applicants' edition point determining function and Applicants' control of the multiplexing means.

Applicants' claim 6 recites, *inter alia*,

> "... edition point determining means that determines an edition point in the audio frame so that a period of reproducing an audio frame to be reproduced last in the video object includes time of the connection point of the video frames, a period of reproducing an audio frame to be reproduced first in the following video object includes the time of the connection point, and the period of reproducing an audio frame in the video object and the period of reproducing an audio frame in the following video object partly overlap each other around the connection point ... control means that controls the multiplexing means so that an audio buffer occupation amount is equal to or less than a value obtained by subtracting a data amount of one audio frame from the upper limit of a specific audio buffer size, and generates a flag indicative of an audio multiplex state at the time of multiplexing by the multiplexing means ... ."

Claims 7-9, 15, 16, 22, 24 and 28 recite an audio/video recording apparatus, an audio/video recording method, and an audio-video recording program in a manner similar to the above-describe features.

Claim 10 recites, *inter alia*, an audio/video reproducing apparatus ... comprising:

> "... offset time calculating means that sets the calculated overlap time as audio PTS offset time to be used at the time of reproducing an audio frame of the following video object when the edition point is the first connection point in a designated reproduction sequence, calculates a value obtained by adding the calculated overlap time and audio PTS offset time at the immediately preceding connection point as audio PTS offset time at the present edition point when the edition point is any of the second and subsequent

connection points in the reproduction sequence, and outputs an audio drop flag of a predetermined value indicating that it is unnecessary to reproduce an audio frame to be reproduced last in the video object at the time of connection under a predetermined condition ... offset means that offsets PTS of an audio frame reproduced from the recording medium in accordance with the calculated audio PTS offset time ... ."

Claims 12, 14, 17, 19, 21, 26, 27 and 29 recite an audio/video reproducing apparatus, an audio/video reproducing method and an audio-video reproducing program in a manner similar to the above-describe features.

Okada describes a video data editing apparatus that uses an optical disc as an editing medium for video data. The video data editing apparatus performs an editing operation that seamlessly links video streams or parts of video streams, which include system streams that have been encoded after a precise calculation that ensures no underflow or overflow will occur in a buffer, in a short time using only a single recording medium. In the editing operation, video object units (VOBUs) that include picture data at the end of a former section and VOBUs that include picture data at the start of a latter section are read from the optical disc, and the audio packs and video packs are separated from these read VOBUs. Next, the video packs are re-encoded and some of the audio packs that were originally in the former section are multiplexed into the latter section. The result of the multiplexing is then recorded onto the optical disc. (See *Okada* at col. 1, lines 14-19, co1. 3 lines 26-35 and abstract.)

In contrast, Applicants' claimed subject matter describes:

(1) an edition point is determined so that a period of reproducing an audio frame to be reproduced last in the video object and a period of reproducing an audio frame to be reproduced first in the following video object partly overlap each other around a connection point, and

(2) PTS (Presentation Time Stamp) of an audio frame to be reproduced first in the following video object is offset in accordance with audio PTS offset time set based on time of overlap between an audio frame to be reproduced last in the video object and an audio frame to be reproduced first in the following video.

Okada fails to disclose or suggest these features. Furthermore, *Okada* fails to suggest:

(3) an audio drop flag indicating that it is unnecessary to reproduce an audio frame to be reproduced last in the video object at the time of connection is output under a predetermined condition.

While the Office Action cites *Okada* as teaching these features, Applicants note that *Okada* is directed to a situation where there is an audio gap period (g1) between the former section and the latter section. (See *Okada* at col. 30, line 43 - col. 88, line 12 and Figs. 14A-14D, 24A and 25.) In *Okada*'s disclosure, in order to prevent an audio stream in the latter section from being reproduced too early during seamless reproduction, a reproduction apparatus halts the operation of audio decoder during the audio gap period. (See *Okada* at col. 81 lines 18-20.) Consequently, in *Okada*'s disclosure, a period of reproducing an audio stream to be reproduced last in the former section and a period of reproducing an audio stream to be reproduced first in the latter section do not overlap each other around a connection point. Therefore, *Okada* is not directed to a situation where (1) PTS of an audio stream to be reproduced first in the latter section is offset in accordance with audio PTS offset time set based on the overlap time; and (2) an audio drop flag indicating that it is unnecessary to reproduce an audio stream to be reproduced last in the former section at the time of linking is output.

Applicants' claims further describe controlling the audio buffer so that an audio buffer occupation amount is equal to or less than a value obtained by subtracting a data amount of one audio frame from the upper limit of a specific audio buffer size at the time of multiplexing the audio data and the video data. *Okada* fails to disclose or suggest this feature.

While the Office Action also cites *Okada* as teaching this feature, Applicants note that *Okada*'s control unit 1 judges whether the accumulated amount of data in the buffer exceeds the upper limit of the buffer (see *Okada* at col. 48, lines 41-47). In contrast, Applicants' claimed subject matter implements a technique which judges whether the accumulated amount of data in the buffer exceeds a value obtained by subtracting a data amount of one audio frame from the

upper limit of the buffer. This prevents an overflow in the buffer from occurring even if reproduction with a delay of maximum one audio frame period is performed.

Applicants also note that *Tsutsui* does not cure any of the above noted deficiencies of *Okada*. The combination fails to meet the *KSR* test because the overlap or non-overlap of the period of reproducing an audio stream to be reproduced last in the former section and a period of reproducing an audio stream to be reproduced first in the latter section is not a mere design step (not "a design step well within the grasp of a person of ordinary skill in the relevant art"). As described above, *Okada* specifies that the periods of reproducing the audio streams do not overlap each other around a connection point. This is more than a superficial difference; it is a basic function of the *Okada* operability.

Accordingly, claims is allowable over the references under 35 U.S.C. §103(a) rejection of claims 6-29. It is therefore respectively submitted that the rejection under 35 U.S.C. §103(a) should be withdrawn.

CONCLUSION

In light of the foregoing, Applicants submit that the application is in condition for allowance. If the Examiner believes the application is not in condition for allowance, Applicants respectfully request that the Examiner call the undersigned.

Respectfully submitted,
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